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Investigating the Continuing Education Needs of Chartered Accountants

by

Naheed Jamal

A thesis submitted to the Faculty of Graduate Studies and Research
in partial fulfillment of the requirements of the degree of

Master of Education

Department of Educational Administration

Edmonton, Alberta

Spring 1996

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Date: April1996 (10th)

Abstract

An exploratory (questionaire) study was conducted to determine the continuing education needs of chartered accountants who work in business organizations. One hundred and fifty six Alberta chartered accountants participated in the study.

Participants provided background data such as age, sex, number of continuing education courses they had taken in the past year, and their satisfaction with the continuing education courses available to them. Participants then rated seventeen knowledge / skill statements on a five point likert scale for both the importance of each skill, and their current ability to perform each skill. Finally, participants wrote comments on their continuing education needs.

The major result of the study is that chartered accountants who work in business organizations are not satisfied with the continuing education courses available to them. Participants indicated that they would like to have an organized continuing education curriculum developed that advances from an introductory level, to intermediate courses, and then to advanced courses.

Acknowledgements

The research reported here was made possible by the one hundred and fifty eight chartered accountants who donated their time, ideas and concerns to participate in the study. The Institute of Chartered Accountants of Alberta (ICAA), and in particular the Executive Director of the ICAA (Mr. Steven J. Glover, FCA), endorsed the study, and provided names and addresses of Alberta chartered accountants. The work could not have been done without their participation and support.

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Chapter 1

Introduction

We are living in an era characterized by rapid technological and social change (Davis and Botkin, 1994). A driving force behind these changes is an explosion in the growth of knowledge, and an increasingly educated and sophisticated population that demands progress and convenience. Our society is becoming a knowledge-based society

One characteristic of a knowledge-based society is the application of sophisticated knowledge-based tools to all tasks from the most menial tasks to the most intellectually stimulating tasks. Workers who perform even the most menial tasks now find they need basic literary skills and have to upgrade their knowledge regularly in order to perform their jobs successfully (Davis and Botkin, 1994).

For example, at one time a student could drop out of high school and become an automobile mechanic by trial and error learning. This student could reasonably except to have a lifelong career as a mechanic. Now however, specialized computer technology is used to regulate the use of fuel, heat the car, regulate the engine and other functions. In addition an automobile service centre has complex computer based diagnostic systems to detect malfunctions and suggest possible repairs. An automobile mechanic now needs to have a high school diploma and more advanced math and computer skills to perform this work successfully.

At all levels of society, adults are increasingly demanding specialized (continuing) education to keep up with the accelerating pace of change in society. Continuing adult education may be provided by educational institutions, business organizations or professionals societies that try to develop education programs for a specific group of people. Continuing education is required to keep up with advances in technical knowledge as well as social changes, especially the changing expectations that society has for professionals.

One of the key functions of a professional organization is to deliver a continuing education program to maintain and promote competency of its members. These organizations face the task of providing education to some of the most highly specialized and educated members of society. For example, chartered accountants face an explosion of knowledge and need some systematic education program to maintain their competence.

These professional accountants also serve as important change agents in society, implementing new knowledge (such as developing new tax planning strategies) to serve practical and social purposes. Professionals are the link between new knowledge produced by research and the development of specific applications that benefit society. In addition, professionals such as chartered accountants have to adapt formal theories to the unstable and unique needs of individual clients (Schon, 1983).

The Problem Statement

The purpose of the current study was to determine the continuing education needs of chartered accountants who work in business organizations.

To guide the research and data analysis, the following questions were addressed:

(1) What knowledge / skills are considered to be important by chartered accountants who work in business organizations ?

(2) What continuing education needs are perceived by Chartered Accountants that could be addressed by extending continuing education programs offered by the Institute of Chartered Accountants of Alberta (ICAA) ?

(3) To what extent do current continuing education programs reflect the needs of chartered accountants who work in business organizations?

Significance of the Study

A study of how professional organizations (such as the Institute of Chartered Accountants of Alberta) construct and deliver continuing education programs could serve as a model for future attempts to create continuing education programs for other highly skilled members of society. Professional organizations need to be at the

leading edge in providing continuing education programs to their members.

In the past, most chartered accountants worked for accounting firms that perform audits of financial statements and provide management and tax consulting services (public practice). In response to the need for continuing education with respect to auditing and tax compliance work, the Institute of Chartered Accountants of Alberta (ICAA) designed its continuing education programs which are heavily oriented towards the needs of members in public practice.

In recent years, there has been an increasing trend for chartered accountants to work for large business organizations or for government and service organizations such as schools, universities and hospitals (as financial administrators). A majority of chartered accountants in Alberta now work in business and government organizations.

The Institute of Chartered Accountants of Alberta faces a major challenge:

(a) to assess the continuing education needs of its members who work in business organizations, and

(b) to develop courses to address their needs.

Assumptions

This research was carried out on the basis of the following assumptions:

1. chartered accountants who work in business organizations need a continuing education program to remain current and to accomplish their job responsibilities effectively.

2. Continuing education should be a life long process for chartered accountants because of rapid change in both theoretical and practical knowledge.

3. Chartered accountants have the capacity to determine what courses they need, and the degree to which the current continuing education program meets their needs

4. All participants would interpret the questionnaire items in a similar manner because they belong to the same profession.

5. The classification procedure used to assign rating data into the four quadrants (by comparing each score with the mean score of its profile) is a reliable procedure.

Delimitations

This study was conducted with a sample of chartered accountants employed in business organizations in the Province of Alberta.

The research focused on course-based continuing education, consisting of theoretical and practical knowledge which the Institute of Chartered Accountants or other organizations such as the University of Alberta can provide. It excludes proprietary knowledge exclusive to specific professional firms or business organizations.

Chartered accountants who live in major Alberta cities (such as Calgary, Edmonton and Red Deer) were contacted and asked to participate in the study. Chartered accountants who live in small cities were not contacted since the Institute of Chartered Accountants of Alberta (ICAA) does not offer continuing education courses in small cities.

Limitation

The quality of the survey results depended on two factors: (1) the degree of awareness chartered accountants have of their education needs, and (2) their willingness to share their thoughts accurately, completely, and without attempting to bias the results.

Definition of Terms

Alberta chartered accountants: Persons who are members of the Institute of Chartered Accountants of Alberta who are legally licensed to practice as professional accountants in Alberta.

Continuing education: Extension of education, part-time or full-time, for adults beyond the school-leaving age, provided in schools, colleges or higher education establishments. (International Dictionary of Education).

Quadrant Assessment Model: A needs assessment model that makes use of discrepancy ratings to identify continuing education needs. The model serves as a framework for determining the continuing education needs of chartered accountants who are managers in business organizations.

Knowledge/skills statements: These are statements that operationalize various possible continuing education needs.

Curriculum: A coordinated group of subjects that professional accountants should learn in order to perform their services competently.

Public practice: These accountants may be sole practitioners or members of small, medium, or large firms. Areas of concentration include auditing, advisory services, and taxation. Individuals who are general practitioners would also be included, as well as those who manage a public practice full - time.

Chartered accountants in Industry: These accountants may occupy various positions in private sector industry such as controllers, treasurers, chief accountants, or staff accountants.

Organization of the Thesis

This chapter begins with a brief introduction to the problem, followed by the problem statement, significance of the study, the underlying assumptions, delimitations and limitations of the study and definition of terms used in the study.

A review of the related literature was undertaken early in the research process. This is presented in chapter two of the thesis. The research design and methodology are presented in chapter three. Presentation and interpretation of data and the findings are presented in chapter four.

Chapter five begins with a summary of the study, followed by the conclusions drawn from the findings, the implications of the study and suggestions for further research. The conclusion to the study is also presented in this chapter.

Chapter 2

Literature Review

The problem statement indicated that the purpose of this study was to understand and identify the continuing education needs of chartered accountants who work in business organizations. A major assumption underlying this study is that there is a knowledge revolution taking place which will fundamentally alter the education of professionals and indeed all members of society (Davis and Botkin, 1994).

In order to understand the impact of this knowledge revolution on the future education of chartered accountants, we need to understand the present knowledge and education system by which chartered accountants are trained. Then we can assess the implications of the knowledge revolution on the future education needs of chartered accountants.

The literature review consists of three parts. The first part focuses on the continuing education needs of professionals. The second part addresses the present education system for chartered accountants. The third part describes the impact of the knowledge revolution on the current education system, and its implications for assessing the future continuing education needs of chartered accountants.

Continuing education needs of professionals

The professions have become essential to the functioning of our society (Schon, 1983). Professionals are essential to the functioning of our formal institutions such as schools, hospitals, government agencies and courts of law. We (as a society) honor the professions' claim to extraordinary knowledge in matters of great social importance and in return grant professionals extraordinary rights and privileges (Hughes, 1959). The great social prestige of professionals has led to professional careers being in high demand, providing high remuneration, and carrying high expectations for the work of professionals (Wilensky, 1964).

In a broad sense the two key attributes of a professional are the possession of a body of theoretical knowledge that can be used to solve important social problems, and the conduct of ethical or altruistic practice, putting the needs of clients ahead of personal economic interests (Flexner, 1915; Kidd, 1962). However, a variety of occupations have sought professional status, thus requiring government agencies and scholars to identify a set of attributes required for formal characterization as a profession.

Continuing education for the professions promotes professional competence, personal growth and social responsibility. According to Marshall (1962) professions have to develop the technical knowledge, personal development and social skills of their members. These skills encompass:

(1) Professional competence has three characteristics: knowledge; skills of judgment, advice and leadership; and a professional attitude. A professional has to be able to use her knowledge to give specialized advice to her clients.

(2) Personal growth: Education must be concerned with the professional as a person. Intelligent people want to be well rounded people and to enjoy life or be interested in many things besides earning a living. This has led to a concern for a general liberal education as well as a specialized technical education.

(3) Social responsibility: Continuing education for professions must take account of the ethical obligations of the profession to its members, its clients and society. Ethical responsibility is just as important as technical knowledge for carrying out the duties of a professional (Marshall, 1962).

Houle (1980) identifies the following fourteen characteristics as being necessary attributes of a profession:

(1) Clarifying its defining function or functions. This involves clarifying who the client is, and what services the professional will provide to the client.

(2) Mastery of theoretical knowledge. This attribute usually contributes to the demand for professional schools.

(3) Capacity to solve problems. A key attribute of a professional is the ability to apply theoretical knowledge to solve important social problems.

(4) Development of a base of practical knowledge. Practitioners should have available to them a substantial body of experiential knowledge and techniques evolved through experience and practical application.

(5) Self enhancement. Self study of related fields to improve self-guided development. Again, the focus is on obtaining broad general knowledge rather than being a technical specialist.

(6) A system of formal training, in order to transmit an essential body of knowledge and techniques of the vocation to all practitioners before they enter service.

(7) Credentialing, in order to test the capacity of individual practitioners, and to provide licenses which give professionals an exclusive legal right to practice certain vocations.

(8) Creation of a sub-culture with distinctive attributes, tradition, role differentiation and relationships, and personal prestige systems. The sub-culture also helps to inculcate certain moral values among members of a profession.

(9) Legal reinforcement to protect special rights and privileges of practitioners. This creates a special legal status that not only gives access to the practice of a vocation, but also gives professional bodies the right to select, monitor and expel their members.

(10) Acquiring public acceptance by building awareness in public about the work of practitioners.

(11) Ethical practice reinforced by establishing a formal code of conduct. Again this reinforces the view that a key feature of professionalism is to serve the public interest rather than to maximize profit from the use of specialized knowledge (Levine, 1973).

(12) Penalties for those who do not comply with ethical practice or are incompetent. A professional body should monitor its members and protect the public from unethical or incompetent members.

(13) Relationship of the work of the vocation's practitioners and that of the members of allied occupations should be clearly established and maintained in practice.

(14) Relationship between practitioners and users of service must be clearly defined.

Despite the stringent criteria required to qualify as a profession, and the general desirability of being classified as professionals, there is emerging a crisis of confidence in professional knowledge (Schon, 1983). Visible failures of professional actions in dealing with the pollution of the environment, the deterioration of cities, poverty, fraudulent actions by managers of large corporations, and high dropout rates in schools undermine confidence in professionals' claim to extraordinary knowledge and their claim to have powerful theory for solving important social problems (Morris, 1980).

Harvey Brooks (1967) argues that professions are confronted with an unprecedented requirement for adaptability:

" The dilemma of the professional today is the fact that both ends of the gap he is expected to bridge with his profession are changing so rapidly: the body of knowledge he must use, and the expectations of the society that he must serve."

The role of professionals is being changed by rapid advances in technology as we move toward a knowledge based society, and an increasing bureaucratization and centralization of professional activity. Doctors are now only a small part of a complex health care system; teachers are now only a part of a complex education system that involves school boards, parents, and the ministry of education; and other professionals such as chartered accountants are only a part of a complex financial system.

The management of complexity and technological change are key challenges facing professionals as they strive to maintain the relevance of their theoretical knowledge in an era of rapid change.

The Present education system of chartered accountants

The present education system of chartered accountants evolved from an apprenticeship mode of training (Allen and Dermott,1993). A student would article in a chartered accounting firm and learn both practical knowledge and professional courtesy by observing an experienced accountant. There was no formal distinction between pre-certification training and post-certification training since all education was obtained inductively by closely observing an experienced accountant at work. This pattern of apprenticeship education is similar to the education programs used in other professions including the teaching profession (McGlothlin, 1964; Powlette,1988).

As the role of accountants expanded as a result of the increasing complexity of business transactions, it soon became clear that it was inefficient and ineffective to train chartered accountants through an apprenticeship system. Gradually a formal system of education evolved and in 1971 the Institute of Chartered Accountants of Alberta (ICAA) formally mandated the requirement for a university degree.

The model of education which is in use today compartmentalizes knowledge into two categories: (a) a body of theoretical knowledge that is acquired in university, and (b) a body of practical skills that are acquired by articling in a chartered accounting firm. The chartered accounting firm is required to expose the student to certain minimum amounts of experience in conducting audits, performing taxation work, and reviewing financial statements (Lyall and McInness, 1977).

There is an assumption underlying this certification process, that there is a stable core of theoretical knowledge, which, when combined with some practical experience, forms the basis for the competent practice of accounting for a lifetime. Once professional certification has been obtained, there is no mandatory requirement for any additional education (Badham, 1979).

This model of education is very similar to a dynamic model of professional education proposed by Houle (1980). Houle's dynamic model of professional education (See figure 1), consists of three distinct stages.

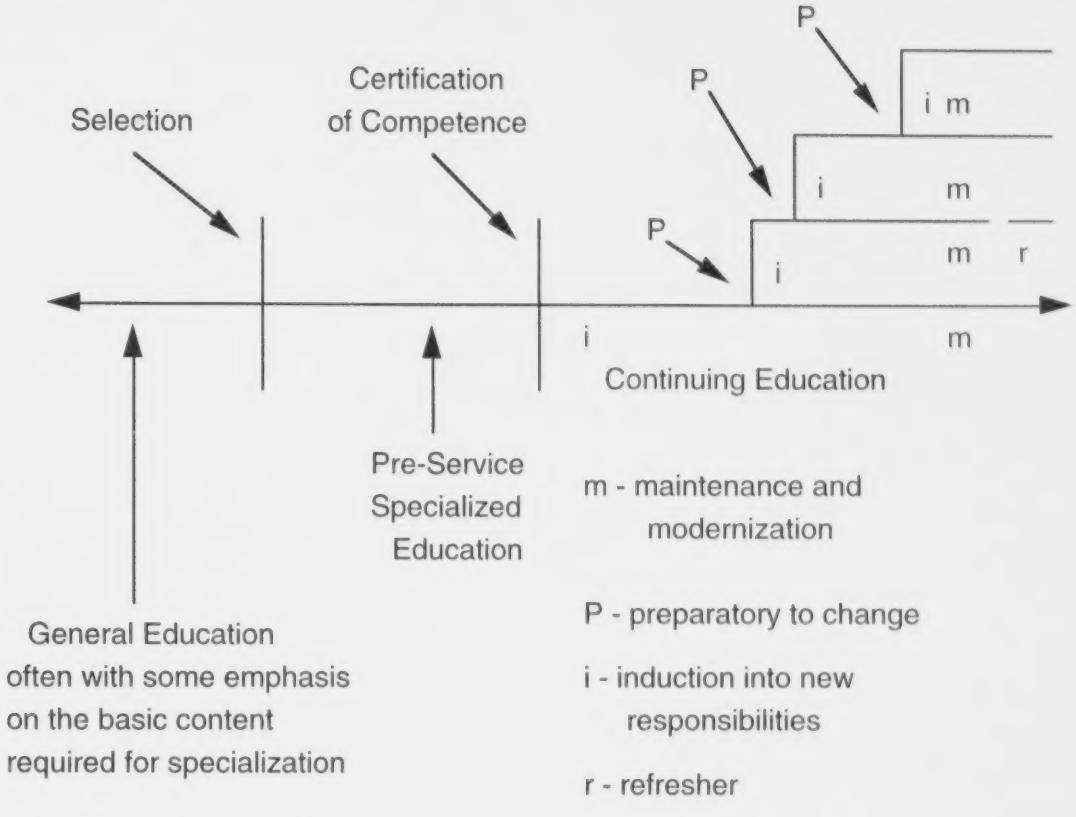

Figure 1. An emerging model of professional education

In stage 1, an individual identifies a particular profession she would like to enter based on family tradition, general interest, a desire to serve society or a desire for economic or social advancement. Then a program of specialized study is undertaken (usually at university) beginning with a broad liberal education and followed by a more specific focus on the technical and ethical requirements of the chosen profession.

In stage 2, the individual goes through an internship (or articling) period where the student is immersed in a professional culture and develops practical skills as well as a set of professional values. At the end of stage 2, the student goes through a licensing procedure which certifies the student as being fit for practice as a professional in terms of technical knowledge and ethical development. This is the end of a formal pre-certification education process that results in the individual being licensed to practice as a professional.

In stage 3, each professional enters a period of post-certification (informal) continuing education. Each professional is charged with the responsibility to maintain her technical competence in a rapidly changing world, to develop a specialization in which services will be provided and to learn new skills as she progresses through her career (Houle, 1980).

Some Professional bodies such as the Certified General Accountants of Alberta (CGA's) have created a structured post-certification education program and require mandatory continuing education whereas other professional bodies such as the Alberta Institute of Chartered Accountants have an extensive but voluntary continuing education program (Peters, 1990).

The need for continuing education arises at stage 3 in Houle's (1980) model. The chartered accountant's responsibilities are increasing

and there is a need for a formal program of continuing education at this stage.

Sources of continuing education programs

Continuing Professional education may be provided by a number of different agencies which may operate as autonomous groups or in collaboration with other agencies such as the employer of the participants (Houle, 1980). Examples of providers of continuing professional education are:

(1) Autonomous Groups: A few members of a profession assemble periodically for fellowship, instruction and discussion. (e.g. Journal clubs, discussion circles, symposia, colloquia, seminars, teacher centers, physicians' round tables or librarians' clubs.)

(2) Associations: A major activity of professional associations is to deliver continuing education programs.

(3) Professional schools: They provide continuing education courses based on new theoretical developments often in conjunction with professional associations.

(5) Employment settings: Large professional firms can provide in-house training to members on a variety of issues employing in-house expertise in a wide variety of areas.

(6) Independent providers of learning opportunities: (e.g. publishers who issue professional journals, entrepreneurs who provide professional development courses, and suppliers of new materials to professionals).

There are currently two major sources of continuing education programs for chartered accountants. Chartered accounting firms provide a series of courses to their professional staff to further develop their technical knowledge and skills. These courses are restricted only to chartered accountants who work in specific firms and are not available to all members of the profession.

Professional firms compete in the marketplace based on their technical knowledge and skills and are thus reluctant to share proprietary knowledge with rival firms (Allen and Dermott, 1993). The large accounting firms have training programs and educational facilities that rival those possessed by universities. Many industrial firms such as Motorola and McDonalds have also formed their own universities which grant diplomas (McDonalds University is in a suburb of Chicago close to Northwestern University) to provide training in company-specific technical skills (Davis and Botkin, 1994).

Small chartered accounting firms that cannot afford to develop an expensive continuing education program, and chartered accountants who leave the chartered accounting firms to work in government,

business or education thus have to seek continuing education programs from the Institute of Chartered Accountants.

The Institute of Chartered Accountants of Alberta (ICAA) faces three major problems that make it difficult to provide an effective continuing education program. First, a significant proportion of their members work for large chartered accounting firms, and these individuals are generally not willing to share their knowledge with potential competitors (proprietary knowledge).

Second, there is a constant pressure to address immediate educational "needs" that are determined by the needs of accountants who are willing to pay fees and take time off from their work to attend courses. In these courses there is a strong pressure to look at some salient cases and focus on the particulars of the situation rather than to achieve a global or holistic view of their activities (Toombs and Lindsay, 1984). These types of courses thus promote development of a more narrow or "tunnel vision" point of view.

Third, the needs of chartered accountants in government and business are very diverse and there is no precedent or model available to guide the development of a continuing education program for these members. The current perception in the profession is that the continuing educational needs of chartered accountants in government and business are not being addressed adequately by the Institute of Chartered Accountants (Ciesick, Monk and Pavlock, 1985).

Impact of the Knowledge Revolution

A major challenge facing professions such as chartered accountancy is to adapt to the demands created by the rapid changes in the development and application of human knowledge (Davis and Botkin, 1994). Professionals solve important social problems by applying complex theoretical knowledge to important practical problems.

The knowledge revolution has the potential to make obsolete both the theoretical knowledge and the practical skills of professionals such as chartered accountants. The rate of change in theoretical knowledge is so large that by the time a student graduates from university, a substantial part of the knowledge acquired in university has become obsolete (Davis and Botkin, 1994).

The rapid obsolescence of theoretical knowledge undermines the effectiveness of the current education system that focuses heavily on the pre-certification needs of potential chartered accountants rather than on their post-certification needs (Costello and Richardson, 1982).

The obsolescence problem is compounded in professional fields because there is a simultaneous change and obsolescence of the practical skills as well as the theoretical knowledge. Both practical skills and theoretical knowledge are evolving rapidly and a schism is developing such that there is an increasingly large gap between the

theoretical knowledge and the practical skills required to apply that knowledge to practical problems.

There are numerous sources of change in the business community that render some part of the chartered accountants' knowledge base obsolete. For example, the government constantly changes the tax law thus making some specific tax knowledge and tax planning strategies obsolete. In addition, new methods of financing business transactions (e.g. use of leases instead of purchasing assets) and new methods of risk management (e.g. sale of mortgage securities) require a constant updating of business, auditing and accounting knowledge.

The constant change in both theoretical and practical knowledge is undermining the current education system which is based on the assumption that there is a stable core of theoretical and practical knowledge that is sufficient for a lifetime of practice. The growing schism between theory and practice, and the rapid obsolescence of both types of knowledge suggest that the current distinction between theoretical knowledge (obtained largely in university) and practical skills (obtained in accounting firms) may not be viable (Badham, 1979).

There is increasing doubt that universities can train a professional accountant effectively without exposing students to the latest tools (e.g. using computer spreadsheets and accounting software) and practical problems. At the same time, there is increasing doubt that

accounting firms and the Institute of Chartered Accountants can succeed in serving the needs of chartered accountants by focusing solely on developing practical skills without any updating of their theoretical knowledge.

The main implications of the knowledge revolution are, First, that there needs to be a fusion of theoretical and practical knowledge; and, Second, that the focus of professional education has to shift from a pre-certification focus to a post - certification process of lifelong learning (Badham, 1979; Knox, 1986).

There is a growing realization in all professions that there is a need for a formal system of post-certification education regardless of the quality of the pre-certification education (see for example, Horowitz (1975) on teacher education). Two emerging issues (which are quite controversial) are: the need for mandatory versus voluntary continuing education programs, and the periodic testing of professionals for renewal of professional licenses.

A 1984 study by Alberta Education suggested that "all teachers in Alberta undergo evaluation of their teaching effectiveness and professional development every five years; and that renewal of a teaching certificate be dependent upon the teacher's acquisition of a specified number of credit points for professional development by the time of each evaluation." These recommendations have not been implemented to date, but they suggest a growing concern among

members of the government in the need for formal programs of continuing education.

Mandatory versus voluntary continuing education

Requirements that practitioners participate in continuing education programs come in many forms and from many sources. Regulations from government, professional associations, employers and insurance companies (Rockhill, 1983). These include (1) direct regulation through state licensure laws (2) indirect regulation through membership or employment requirements (3) informal sanctions. In the US., most professionals such as doctors, lawyers, accountants, architects, teachers, nurses and optometrists are now required to participate in a variety of continuing education programs (Norcinin and Shea, 1993).

One-time certification for lifetime is no longer considered good enough. Another realization that has developed over the years is that professionals can not learn all they need to know for effective practice at the time of certification. Perhaps a gap is occurring between what the public expects and what the profession can deliver (Lowenthal, 1981).

Mandatory continuing education is not a new concept. Teachers may be required to undertake additional course work to maintain their certification and for salary increases. Mandatory continuing education results because the voluntary approach to continuing education may fail.

Lowenthal (1981) proposes the following advantages of a mandatory continuing education program:

(1) Helps protect public from professionals who are lazy, uninterested or too egotistical to participate in continuing education.

(2) Eliminates professionals who are no longer practicing or not interested in keeping up professionally. These professionals could prove to be harmful to the public if they choose to come back into practice since they would not be up-to date in knowledge.

(3) Increases professional interchange, and may lead to informal continuing education because of increased collegiality among professionals.

(4) Helps maintain or improve public confidence in the profession.

(5) Eliminates (or reduces) the threat of re-licensing examinations (Brenner and Strawser, 1972)

(6) Provides better informed practitioners and increases awareness of new developments.

Disadvantages of a mandatory continuing education program according to Lowenthal (1981) are:

(1) Lack of accessibility.

(2) Continuing education is expensive, which in turn effects the fee charged for service.

(3) The quality of activities and ability of providers varies greatly.

(4) Specialization makes continuing education programming difficult and expensive due to the large number of courses required.

(5) Re-entry into practice after an absence is a problem.

(6) Adequate educational resources are lacking.

(7) Lack of adequate or effective evaluation tools. Mandatory continuing education does not guarantee that people will take the relevant courses in their areas of weakness.

The Institute of Chartered Accountants of Alberta does not currently have a mandatory continuing education requirement. The aim of the Institute is to provide a voluntary program that members can access based on their own interests. Courses are thus geared to specific

needs of members rather than meeting a required number of credit hours to maintain certification.

The American (AICPA) Continuing Education Program

A review of the US. literature indicates a similar set of concerns as articulated earlier about the need for continuing education programs for professional accountants. Ciesick, Monk, and Pavlock, (1985) discuss how the diversity and complexity of services rendered by Certified Public Accountants (CPA's) have changed over the last two decades and there appear to be gaps in the array of program offerings.

Existing continuing education programs do not address the particular needs of the thousands of accountants who are not in public practice. The lack of advanced, as well as application- oriented, programs are also a major problem giving rise to the need for continuing professional education curriculum that responds to the needs of the accounting profession (Ciesick, Monk, and Pavlock, 1985)

The American Institute of Certified Public Accountants' (AICPA) continuing professional education division issued a National curriculum called A pathway to Excellence in 1987. This curriculum outlines the needs of accountants in practice, industry and government and also describes the nature of CPE programs required to meet future needs of these accountants.

This curriculum will help accounting CPE directors to decide which training programs can be structured as in-firm training programs. It will also help select and schedule staff members for appropriate outside courses. This curriculum will also serve as a means of continuous comparison and evaluation of available CPE courses.

Design and flexibility of the curriculum

After analyzing the tasks and activities performed by accountants in their work, the curriculum designers identified the knowledge required. The curriculum addresses subject areas for accountants in practice, industry and government and includes six principle fields of study:

Accounting and auditing: includes accounting and financial reporting subjects, and auditing subjects related to the examination of financial statements, operation, systems and programs.

Taxation: tax compliance and tax planning

Advisory services: management, business, personal financial planning and other services.

Management: deals with management needs of accountants in three different areas. (e.g. accountants in industry need skills such as financial management of an organization such as information systems, budgeting and asset management. Accountants are also

involved in buying and selling business, and contracting for goods and services; and monitoring the activities of foreign subsidiaries).

Specialized knowledge and application: subjects related to specialized industries such as health care, oil, and the not-for-profit sector.

Personal development: Becoming a competent people manager requires skills such as communication and managing the group process. Managers also need to be effective in dealing with others in interviews, counseling and career planing.

Each of these fields of study is subdivided into groups of complementary learning units or building blocks. Each unit could be considered to be a course (or several units could be combined to make up a course). Hence the curriculum is a coordinated group of subjects that would help accountants to perform their services competently.

The development of such a continuing education program for Canadian chartered accountants poses formidable challenges partly due to the novelty of the task, but also due to the wide diversity of organizations in which chartered accountants work.

Bennett and Fox (1993) propose that continuing education providers are change agents who have to deal with the complications inherent in the sharing of proprietary knowledge among competing

professional firms, and with the difficulty of constructing a learning program that provides the right balance between theoretical knowledge and practice.

A key problem that has to be solved in order to develop an effective continuing education program is a needs assessment of the knowledge required by chartered accountants. Fish, Gipple and Katz (1985) define an educational need as the gap between individuals' current knowledge and the desired state of knowledge required for effective performance of their tasks and social function.

A needs assessment provides the base-line data required to develop curriculum. The curriculum specifies the knowledge required so that individuals can advance from their current state of knowledge to their desired state of knowledge (Boyle, 1981; Austin, 1976; McDonnell, 1977).

A needs assessment can help chartered accounting firms and the Institute of Chartered Accountants make many decisions regarding their continuing education programs. Resource allocation decisions, course content, course delivery and teaching style decisions would be facilitated (Fish, Gipple and Katz, 1985; Sisimaya, 1994).

Methods for assessing educational needs

A variety of methods can be used to identify educational needs. Alspach (1995) classifies the methods available into two categories: direct methods and indirect methods. Direct methods

obtain information by means of a straight forward solicitation of educational needs from human participants. Examples of direct techniques include interviews, focus group discussions, and responses to written questionnaires.

Indirect methods of needs assessment include analyses of the work situation and records to yield information related to educational needs. Examples of indirect techniques include observation, listening, and review of archival records and documents.

Borg and Gall (1989) propose that researchers should use several different kinds of data collection methods (such as tests, direct observation, interview, and content analysis), to explore a single problem or issue. This approach of collecting observations using different methods, or collecting data at different times/different places, is labelled triangulation (Shipman, 1981). Triangulation enhances the trustworthiness of the findings.

Approaches for conducting a needs assessment

Needs assessments usually address a future-oriented question: what goals should a program be pursuing? The literature on needs assessment describes a variety of concepts, definitions and approaches. Stufflebeam, McCormick, Brinkerhoff and Nelson (1985) present three general approaches for conducting a needs assessment and list some of the advantages and disadvantages of each approach.

The first approach presented by Stufflebeam et al., (1985) is the discrepancy approach, which they claim is the most popular approach used to conduct a needs assessment. Under this approach, a need is a discrepancy between measures or perceptions of desired performance and observed or perceived performance. This is an output oriented approach (rather than an input or process based approach) which is effective in settings where norms and standards are readily available.

This approach may also be used in settings where questionnaire responses can be accepted at face value. Questionnaire responses are most likely to be valid when the subjects participating in the study are well informed about their educational needs.

A second approach presented by Stufflebeam et al., (1985) is the analytical approach, in which current trends are used to forecast future needs. This approach uses expert judgment and systematic in-depth problem analysis to focus on broad improvement of performance. An example of this approach is the establishment of a panel of expert educators to draw up a model curriculum for a school district. This approach can be conducted only by a panel of highly skilled educators.

A third approach discussed by Stufflebeam et al., (1985) is the diagnostic approach, in which a need is defined as a necessary condition for successful task performance. Under this definition the presence of the necessary condition improves performance, and the

lack of the necessary condition proves harmful to effective performance. For example, a hearing impaired child can be tested with and without a hearing aid to determine the benefit resulting from the use of the aid.

According to Borg and Gall (1989) the critical set of features which guides the choice of research method are the potential to obtain insight into the problem being studied (signal) and the potential for biasing the results (noise). In the present study, the principle assumption is that

Chartered accountants who are working in business organizations can perform their present tasks adequately, have awareness of their continuing education needs, and can articulate these needs effectively. This suggests that a discrepancy approach can be used to do a needs assessment.

The focus on adult learners who are professionals also suggests that survey methods can be used to elicit self reports of needs and that the use of a questionnaire will result in collection of standardized information from all participants in the study.

Chartered accountants can provide two major kinds of information about perceived educational needs: (1) stated preferences, and (2) proficiencies they want to enhance and the choices they make when given opportunities to participate in continuing education activities. Additional normative needs can also be identified from

other sources (teachers, supervisors, experts) who identify unsatisfactory proficiencies by comparing potential participants with adults generally or with the expert's standards of desirability.

The data collected from a survey (direct method) can then be supplemented with archival data (indirect method) on the participants' age, number of years of experience and a host of other background variables.

The Quadrant Assessment Model (QAM) uses survey data to identify educational needs by computing the discrepancy between current and desired knowledge. The QAM has been used in a variety of studies conducted to assess the educational needs of school principals (Sanders, 1980), teachers (Ikonne, 1985), Head teachers (Sisimayi, 1994), and education administrators (Stufflebeam et al., 1985). These studies have all been done in education settings so their results cannot be generalized to the professional setting in which chartered accountants work. The QAM methodology however can be used in a professional setting (Borg and Gall, 1989).

Summary

Professionals play an important role in the functioning of our complex knowledge-based society. They are entrusted with complex social problems of vital importance and are expected to apply knowledge (or theory) to help solve important practical problems (Schon, 1983).

Despite the importance of professionals to the functioning of society, and the tremendous need for professional continuing education, there has been little systematic research on the continuing education needs of professionals. In the case of professional accountants there have been a few studies sponsored by professional bodies or conducted by practicing accountants who have been concerned about the continuing education needs of the profession.

It is clear in the professional literature that there is a need for a continuing education program. There are some differences of opinion regarding whether such programs should be voluntary or mandatory, but there is general agreement about the need for a program to be available. It is also clear that professional bodies such as the Institute of Chartered Accountants of Alberta have a major role in designing a curriculum and delivering a continuing education program for chartered accountants.

Research on continuing education stresses the importance of identifying the educational needs of adult learners (needs assessment) so that a useful continuing education program can be developed to assist chartered accountants. The current study attempts to identify the continuing education needs of chartered accountants who work in business organizations so that a continuing education program can be developed to satisfy their needs.

Chapter 3

Research Design and Methodology

This section of the study consists of three major components. The first component is the research design, the second component is a description of the development of a data collection instrument, the third component is an outline of the methodology employed in conducting the study.

Research Design

The purpose of this study was to determine the continuing education needs of chartered accountants who work in business organizations. The study focused on gathering information about the current continuing education programs available and the degree to which these programs meet the needs of chartered accountants employed in a variety of business organizations. In order to accomplish the purpose of the study, a survey research methodology was used. The reasons for selecting a survey approach are:

(1) The relevant subject population is large and thus cannot be observed directly.

(2) The questionnaire provides information from all participants in the same format. This facilitated the measurement of responses for two hundred and seventy nine chartered accountants, who were sampled in the study.

(3) The survey method generates data that can be analyzed using the quadrant assessment model (QAM). The QAM provides a framework for analyzing discrepancies in responses between continuing education needs of chartered accountants and perceptions of the degree to which these needs are currently being achieved.

Major Considerations

Major consideration in the research design included:

(a) Developing an appropriate questionnaire to collect data.

(b) Securing permission from the University's research ethics committee to conduct the research.

(c) Identifying participants (chartered accountants) to participate in the study.

(d) Collecting data

(e) Descriptive statistics (such as comparing means and standard deviations) were employed in the data analysis.

Participants

The population of potential participants consisted of (approximately 2,000) Alberta chartered accountants employed in business

organizations. These chartered accountants were selected because they have a diversity of needs, and because there is a belief that their needs are not currently being adequately served by the continuing education program of the Institute of Chartered Accountants of Alberta (Ciesick, Monk and Pavlock, 1985)

Development of the Questionnaire

The questionnaire developed consisted of three parts. The first part asked for demographic data. The second part dealt with (a) needs assessment, with special attention being paid to curriculum and instruction, and (b) evaluation of the continuing education courses by each participant. The third part consisted of an open-ended question that asked participants to comment on their continuing education needs.

Part I: Demographic Data

The purpose of the first part of the questionnaire was to get background information on chartered accountants who participated in the study. This section asked for information regarding the organizations the chartered accountants work for, their age, length of service and gender. This information is necessary in order to define the context in which chartered accountants work, and to determine whether there are any relationships between such background characteristics and the continuing education needs and/or perceptions of participants.

Part II: Continuing education programs (Need assessment)

The second part of the questionnaire focused on aspects such as the number of continuing education courses respondents had attended in the past year, who organized the course (e.g., the ICAA, their employer, industry association), and the chartered accountant's perceptions of whether their specific needs were being meet by current continuing education courses.

A needs assessment questionnaire can assist providers of continuing education programs to improve their programs by providing information on: (a) the strengths of programs or personnel, (b) perceived weakness in programs, (c) unmet needs, and (d) priorities for future or immediate action.

In order to identify specific knowledge / skill statements three sources were consulted :

(a) Studies on continuing education needs of professional accountants (Fish, Gipple and Katz, 1985),

(b) The AICPA continuing education curriculum, and

(c) The 1995 chartered accountants in Industry survey (described below)

Open ended Questions

A question was included to give chartered accountants an opportunity to indicate important factors that may have been overlooked by the questionnaire.

The 1995 Chartered Accountants in Industry survey

The Institute of Chartered Accountants of Alberta (ICAA) conducted a survey of its members working in Industry in February 1995. The aim of the survey was to determine how the ICAA could better serve the needs of chartered accountants in industry.

The survey sought answers to questions such as: how long have you been a chartered accountant , what is your present position, over the past year how many institute functions / courses did you attend, what are the primary factors that affect your attendance - rank the following five factors in order of importance: cost, timing, length of function, topic or any other, what is the best possible month and approximate date for conducting these courses and whether members would prefer a breakfast session with presentation over a lunch or dinner session with a presentation. An open ended question was included to solicit comments regarding topics that are of interest to chartered accountants in industry.

Summary of results of the survey

There are approximately 2151 Alberta chartered accountants working in industry. A questionnaire was mailed to each of these chartered accountants but only 124 questionnaires were received,

representing a 5.8% response rate. When I asked the executive director of the Institute about the low response rate, he claimed that the low response rate occurred because the Institute did not provide a postage-paid return envelope, they did not do a follow up of those members who did not respond, and the questions were quite general so very few chartered accountants responded.

Chartered accountants who responded were predominantly individuals who had 10 or more years experience and occupied senior level positions such as president, vice president, chief financial officer or controller of companies in Alberta. Results of the survey showed that the most important factors affecting attendance at continuing education sessions were the topic, followed by the time when the course was offered.

In response to the open ended question soliciting topics of interest , thirty nine separate suggestions were made on a wide variety of issues such as ethics and governance, derivatives and hedging, financial management, human resources management, risk management, the role of the financial executive, fraud, information systems technology, doing business in Asia, and time management .

Chartered accountants also suggested that the ICAA can better serve its members by providing professional development sessions for chartered accountants in industry. In addition, suggestions were made for: (a) increasing the ICAA's budget for industry chartered accountants, (b) presenting more topics relevant to chartered

accountants in industry, (c) continuing to publicize the competence and excellence of chartered accountants in industry, (d) providing timely resource materials for chief financial officers (CFOs), (e) arranging more networking sessions only for industry chartered accountants and, (f) promoting the value of chartered accountants in industry versus chartered accountants in public accounting firms.

Contribution of the current study

The number of topics suggested by chartered accountants in the 1995 ICAA survey is clearly too large to guide the ICAA's decision making process with regard to which courses to offer. Not only is the list too long, the ICAA has no information about the relative importance of the topics identified in the survey, or the demand for any given topic. As discussed earlier, one method that can be used to guide the development of a continuing education program is a needs assessment survey.

The current study has the potential to assist the ICAA in developing a continuing education program for chartered accountants in Industry by first sampling a larger portion of its membership to obtain a more reliable assessment of the topics of interest to chartered accountants. In addition, the present study has the potential to identify topics where there is a large discrepancy between the chartered accountants' desired level of knowledge and their current level of knowledge. Topics that have the largest discrepancies can then be assigned high priority in the development of a continuing education program.

Pilot study

After the development of the questionnaire, a pilot study was conducted. Four individuals served as pilot subjects. Each pilot subject was asked to review the questionnaire and provide suggestions for improvements. The pilot subjects included:

(a) Two chartered accountants employed as senior administrators in the Institute of Chartered Accountants of Alberta (ICAA),

(b) One professor from the department of accounting and management information systems at the University of Alberta. The professor is also a member of the Institute of Chartered Accountants of Alberta, and

(c) a research consultant with considerable experience in designing and analyzing survey data in the Department of Educational Policy Studies at the University of Alberta.

There are several reasons for conducting a pilot study. A pilot study can identify important areas that have not been covered by the questionnaire, provide input on the clarity of questions, and identify threatening, biased or double-barreled questions.

On the basis of the suggestions made during the pilot study, the following changes were made to the questionnaire:

(1) Knowledge/skills statements were put in the form of action words (verbs), so as to create a consistent tense that could be easily interpreted by subjects,

(2) The length of the questionnaire was shortened. Pilot subjects suggested that Chartered Accountants would be unlikely to participate if the questionnaire was long, and

(3) Questions were reworded, so as to clarify the meaning of the questions.

Borg and Gall (1989) observed that a pilot study "often provides ideas, approaches and clues not foreseen prior to the pilot study. Such ideas and clues greatly increase the chances of obtaining clear cut findings in the main study" (p.77).

Administration of the questionnaire

Approval for the study was obtained from the Ethics Review Committee of the Department of Educational Policy Studies at the University of Alberta. The questionnaire was mailed to a random sample of 283 chartered accountants who work in business organizations. The names, addresses and occupation of chartered accountants were obtained from the Institute of Chartered Accountants of Alberta (ICAA).

The ICAA screens research proposals that seek access to confidential records on their members. The executive director of

the ICAA reviewed the questionnaire and concluded that the questionnaire would be useful to the Institute in planning continuing education programs. The executive director of the ICAA agreed to provide the names and addresses of 300 Chartered Accountants who work in business organizations. He also endorsed the study, and wrote a cover letter urging chartered accountants to participate in the study.

The ICAA also provided a second copy of the names and addresses of chartered accountants so that responses could be monitored, and second requests could be sent to chartered accountants who did not respond to the questionnaire.

Validity and Reliability of the Instrument

Borg and Gall (1989) define validity as the degree to which a test measures what it purports to measure. The questionnaire items were constructed based on:

a) results of a previous study of professional accountants (Peters, 1990),

b) a review of the american (AICPA) continuing education program for professional accountants,

c) results of a 1995 survey conducted by the ICAA,

d) a pilot study involving senior administrators in the ICAA as well as a professor and survey research consultant at the University of Alberta.

These sources of literature as well as pilot study comments provide substantial assurance that the items included in the questionnaire are valid and cover the scope of the study.

Borg and Gall (1989) define the reliability of an instrument as the degree to which an instrument will yield the same results on repeated application. A test-retest approach was not used to measure the reliability of the questionnaire due to limitations in getting access to participants, time and resources. Pilot subjects indicated they felt the questionnaire was carefully constructed and appropriate for collecting the data. No ambiguities were identified that might make the responses unstable or invalid.

Methodology

Quadrant Assessment Model:

The quadrant assessment model, (which is shown in figure 2), was used to identify the continuing education needs of chartered accountants. The methodology (Sanders, 1980) consists of asking chartered accountants to make two rating judgments for each question. The first rating was based on how important an item is to them. This is a measure of an "ideal" or desired outcome. The second

judgment rates how effective the professions' continuing education program is in meeting needs. This is a measure of "real" or actual accomplishment of each task.

Discrepancies between highly desired (ideal) outcomes and real accomplishments (both high and low) were organized to identify continuing education needs of chartered accountants. These are shown in Quadrant 1 and Quadrant 2 of the quadrant assessment model described below. Discrepancies in Quadrant 2 (high ideal - low real) are the main focus of this research since they indicate important needs that are not currently being addressed effectively.

Quadrant 2 (High Ideal - Low Real)
Quadrant 1 (High Ideal - High Real)
Quadrant 3 (Low Ideal - Low Real)
Quadrant 4 (Low Ideal - High Real)

Figure 2

Quadrant Assessment Model

A five - point Likert scale from 1 (low) to 5 (high) was provided under each heading to facilitate the rating judgments. The questionnaire ratings were coded and assigned to the following four quadrants (which are also shown in figure 2):

Quadrant 1: High Ideal - High Real

Task descriptions with high scores in both the ideal and real dimensions were placed in this quadrant. These task descriptions consisted of statements rated as being important by chartered accountants, which they perceived they could currently perform effectively.

Quadrant 2: High Ideal - Low Real

Task descriptions with high scores on the ideal dimension and low scores on the real dimensions were placed in this quadrant. These task descriptions consisted of statements rated as being important by chartered accountants, which they perceived were not being performed effectively in their organizations. These discrepancies between highly desired but poorly performed tasks serve as indicators of both short term and long term continuing education needs for chartered accountants in business organizations.

Quadrant 3: Low Ideal - Low Real

Task descriptions with low scores on both the ideal and real dimensions were placed in this quadrant. These task descriptions are perceived as being relatively unimportant, and are not getting much attention in practice. These tasks are not relevant for

identifying continuing education needs since they are unimportant tasks, at least at the present time.

Quadrant 4: Low Ideal - High Real

Task descriptions with low scores on the ideal dimension but high scores on the real dimension will be placed in this quadrant. These task descriptions are perceived as being relatively unimportant, but are perceived as being carried out effectively in practice. These tasks are not relevant for identifying continuing education needs since they are unimportant tasks, at least at the present time.

Data Analysis

Data were analyzed in four stages corresponding to the questions identified in the problem statement. The first question addresses the tasks that are considered to be important by chartered accountants. The mean ratings on the importance variable were thus analyzed to identify tasks rated high in importance and tasks rated low in importance.

The second question focuses on education needs of chartered accountants. The mean score of importance (ideal) ratings and actual performance (real) ratings were computed to assign task descriptions to the four quadrants in the Quadrant Assessment Model. In addition, a sub-group analysis was done to analyze the ratings on importance and ability by sex of participant (male and female) and age (35 years and younger, over 35 years). The sub-group

analysis was done to isolate education needs that may be unique to younger chartered accountants and female participants.

Summary

The survey research methodology was considered appropriate for this exploratory study for gathering information from chartered accountants working in business organizations regarding their continuing education needs.

Data were collected by means of a questionnaire which consisted of two parts. The first part asked for demographic information such as age and sex. The second part asked participants to rate certain knowledge/skill statements twice on a Likert type scale. The first rating was to indicate an ideal state while the second rating was for actual performance. An open-ended question was also included in this section to identify any need that had been overlooked by the questionnaire.

A pilot study was under taken to enhance the validity and reliability of the research instrument. The result of the pilot testing led to modifications in the questionnaire. The data were subsequently analyzed through the computation of frequencies, percentages and means. Chartered accountants' needs were identified through the use of the Quadrant Assessment Model, which depends on the analysis of the discrepancy between the ideal and real. The major findings of the study and their interpretation constitute the substance of the next chapter.

Chapter 4

Presentation and Interpretation of Data

Introduction

The purpose of this study was to identify the continuing education needs of chartered accountants working in business organizations. The data for this study was collected by the survey method using a questionnaire.

The response rate, the data, major findings and a discussion of the results are presented in this chapter. The chapter concludes with a summary of the findings.

Response Rate

The Alberta Institute of Chartered Accountants (ICAA) selected a random sample of 300 of their members who work in business organizations. The ICAA then provided mailing labels that contained the names and addresses of these 300 chartered accountants. A careful review of the above indicated that nine of the addresses were outside Alberta, and eight were located in small towns where no continuing education programs are being offered by the ICAA. These seventeen chartered accountants were removed from the sample since it is unlikely that they attend continuing education courses provided by the ICAA.

The questionnaire was initially mailed to 283 Chartered accountants working in business organizations in Alberta. The executive director of the ICAA (Mr. Steven Glover, FCA) wrote a

covering letter on an ICAA letterhead endorsing the study and urged his members to participate in the study. Participants were promised confidentiality, and a self-addressed stamped envelope was provided for their convenience.

Three questionnaires were returned by the post office due to incorrect addresses and one chartered accountant claimed that he did not work in a business organization and was thus not eligible to participate in the study. The adjusted sample size consists of 279 chartered accountants working in business organizations in Alberta. The overall response rate was 57 % after two mailings of the questionnaire. 158 responses were received of which two were not usable because the participants did not complete the questionnaire.

Response rates on questionnaire studies tend to vary dramatically depending on the subject group being sampled, the issue of interest, and the amount of effort expended to contact potential participants (Borg and Gall, 1989). In their chapter on survey research, Borg and Gall present examples of survey research that obtained response rates from as low as 25 % (despite considerable efforts made to contact potential participants) to a high of 94 %. The response rate of 57 % obtained in the present study is quite respectable compared to response rates obtained in other studies (e.g., see Msolla, 1993).

The present study was endorsed by the ICAA; the potential respondents all live in major Alberta cities (such as Calgary, Edmonton and Red Deer), and questionnaires were sent out twice

with a self-addressed stamped envelope. This indicates that considerable effort was expended to reach potential respondents. The questionnaires were mailed in the fall which is not a busy time for most chartered accountants. A third mailing was not conducted because the end of the year (December) and the beginning of the new year (January to April) are very busy times for chartered accountants as they work on preparing financial statements and tax returns for their companies.

Table 1

Response rate for Chartered Accountants

	Expected response	Actual response	Percentage of response
1st mailing	279	96	35
2nd mailing	279	62	22
Total		158	57

Characteristics of Participants

The first part of the questionnaire asked for demographic information, such as age, sex, number of years of experience as a chartered accountant in Industry. Respondents were also asked to indicate how many continuing education courses they had attended in the past year. They were also asked to indicate the sponsors of those courses: the ICAA, their work organization, self directed

courses, or any other source of courses. The results of their responses have been summarized below:

Table 2

Age of Participants

Age	f	%
24-35	88	57
Over 35	66	43
Total	154	100

The median age of the chartered accountants who participated in the study was 35 years. According to Houle's (1980) model of professional education (figure 1) younger chartered accountants who are beginning a career in business organizations should be focusing on developing new knowledge for induction into new responsibilities and changes in their career. Older chartered accountants should be refreshing their knowledge and focusing on maintenance and modernization rather than new responsibilities. Houle's (1980) model suggests that it may be informative to analyze the data of the study for young participants (35 years and younger), separately from older participants.

The median number of years of experience in industry was 4 years. These results are consistent with the age results above, indicating a

strong relationship between age and number of years of experience. Students graduate from university (when they are about 22 years old) and then begin a thirty month articling period to attain a chartered accountancy (CA) designation (25 years old). Then they usually obtain one to five years experience in a CA firm before taking a position in industry.

Table 3

Years of Experience

Years of Experience	f	%
1-4	76	54
5-35	66	46
Total	142	100

The participants were mainly males (75%) with only 25 % of respondents being female. This ratio of males occurred due to a larger number of males (70% of chartered accountants selected were male) in the random sample selected by the ICAA, and not due to a response bias. It is possible that females may have different education needs than males so differences in response patterns based on gender will be identified and discussed later in the chapter.

Table 4

Sex of Participants

Sex	f	%
Female	39	25
Male	117	75
Total	156	100

The participants self-reported the number of continuing education courses they had attended over the past year. A surprising finding was that 39 % of respondents had not participated in even a single continuing education course in the past year. This finding is contrary to Houle's (1980) model which requires professionals' to maintain professional competence and learn new skills as they progress through their career. In the literature review section there was a review of a debate (Norcinin and Shea, 1993; Brenner and Strawser, 1972) that many professional bodies are having about whether to have a mandatory continuing education program versus a voluntary program.

The ICAA has a voluntary program even though other professional accounting groups in the US (such as the CPA's) have mandatory continuing education programs. It is premature to conclude from one year's data that there is a serious deficiency in maintaining the competency of chartered accountants in Alberta. However, the

results of this study suggest that the ICAA needs to monitor the involvement of their members in continuing education activities.

Table 5

Number of Continuing Education Courses Attended

No. of continuing education courses	f	%
0	60	39
1-2	52	34
3-4	27	18
5-12	14	9
Total	153	100

Most respondents (93 %) indicated that they felt their continuing education needs were being met and only 7 % expressed dissatisfaction with the courses available to them. The ICAA courses were attended by about 55 % of respondents. Most respondents got some training from their employer or from other sources.

Some respondents, especially from small cities (excluding Calgary and Edmonton) indicated they felt that continuing education courses were not easily accessible to them. The concerns expressed by respondents about the courses presented by the ICAA as well as access to courses will be analyzed in the qualitative data section of the chapter.

Table 6

Needs Met by Continuing Education Courses

Needs met Vs Needs not met		f	%
(a)	Needs met	146	93
	Needs not met	10	7
	Total	156	100
(b) Needs met by:			
	Institute of Chartered Accountants	85	55
	On the job training	101	65
	self directed	83	53
	Other	75	48

Table 7

Availability of Continuing Education Courses

Availability of continuing education courses	f	%
Available	132	87
Not available	20	13

Outcome Data

The questionnaire data were analyzed to provide an answer to the three questions posed in the problem statement (in Chapter 1):

(1) What knowledge/skills are considered by chartered accountants to be most important for the effective performance of their work roles in business organizations?

(2) What continuing education needs are perceived by chartered accountants that can be addressed by extending continuing education programs offered by the Institute of Chartered Accountants of Alberta?

(3) To what extent do current continuing education programs reflect the needs of chartered accountants who work in business organizations?

Q 1: What knowledge / skills are considered to be important by chartered accountants who work in business organizations?

In order to determine what knowledge/skills are perceived to be most important by chartered accountants who work in business organizations, the seventeen knowledge/skill statements were ranked based on the mean importance score (on a Likert scale ranging from 1 to 5) they received from participants in the study.

The eight knowledge/skill statements receiving an importance rating greater than the overall mean importance rating of 3.898 were:

1) Analyze Financial Statements
(Mean = 4.66, Std Dev = .539).

2) Apply Ethics and Values in Business Decisions
(Mean = 4.51, Std Dev = .705).

3) Use Budgets as Operational Tools
(Mean = 4.35, Std Dev = .708).

4) Develop Internal Controls
(Mean = 4.26, Std Dev = .708).

5) Prepare Basic GAAP Financial Statements
(Mean = 4.24, Std Dev = .953).

6) Develop Procedures to Enhance Efficiency
(Mean = 4.12 , Std Dev = .87).

7) Resolve Conflicts
(Mean = 4.08 , Std Dev = .82).

8) Cash Management
(Mean = 4.04 , Std Dev = .88).

A review of the knowledge/skill statements ranked as being important indicates that these statements -- with the exception of item 5 (prepare basic GAAP financial statements), and item 8 (cash management)-- are generally not part of the continuing education curriculum offered by the Institute of Chartered Accountants of Alberta (ICAA). These importance ratings indicate that the ICAA should consider developing courses on financial statement analysis, business ethics, budgeting, and development of internal controls.

The nine knowledge/skill statements receiving an importance rating less than the overall mean importance rating of 3.898 were :

9) Keep up-to-date on New Accounting Standards
(Mean = 3.87, Std Dev = .88).

10) Make Public Presentations
(Mean = 3.82, Std Dev = .85).

11) Perform Treasury Duties
(Mean = 3.76, Std Dev = .95).

12) Perform Capital Budgeting Studies
(Mean = 3.74, Std Dev = .911).

13) Manage Short and Long Term Investments
(Mean = 3.68, Std Dev = .87).

14) Manage Fixed Assets
(Mean = 3.35 , Std Dev = .99).

15) Activity Based Costing
(Mean = 3.33 , Std Dev = 1.02).

16) Use Derivatives to Manage Risk
(Mean = 3.29, Std Dev = 1.06).

17) Plan Inventory Levels
(Mean = 3.13, Std Dev = 1.15).

A review of the knowledge/skill statements ranked as being less important indicates that the mean rating of all statements are quite high, not a single knowledge/skill statement got a mean rating less than 3.0 on a 5 point scale. This indicates that all the skill statements were relevant to the participants, and that the questionnaire design and pilot study were successful in isolating relevant skills for chartered accountants who work in business organizations.

The Faculty of Business at the University of Alberta is currently in the process of developing a masters degree program in financial management. This masters program would seek to provide knowledge and skills required by chartered accountants who are moving from the CA firms to business organizations. Some of the

key topics being considered for this new masters program include performing treasury duties, capital budgeting, activity-based costing and use of derivatives to manage risk.

It is interesting to note that all the skills being considered for this new masters program were rated as being less important by participants who are the primary target market for this new program. These results should be interpreted with some care. It is possible that many of these skills (e.g., use derivatives to manage risk) receive relatively lower ratings because they are new and emerging issues and thus perhaps relevant only to younger chartered accountants according to Houle's (1980) model. The comments made by participants will be analyzed later (process analysis) to determine whether there is a demand for such skills.

A more optimistic interpretation would be that these new emerging issues are beginning to become important and there is already some interest being indicated in these issues. These results should however, serve as a caution to the Faculty of Business to consider adding courses on financial statement analysis, business ethics, budgeting, and the development of internal controls. The analysis of importance ratings has identified four topics (financial statement analysis, business ethics, budgeting for operational decision making, and development of internal controls) that are not currently a part of the ICAA curriculum, and are also not currently part of the new proposed masters program in financial management.

Q2: What continuing education needs are perceived by chartered accountants that can be addressed by extending continuing education programs offered by the Institute of Chartered Accountants of Alberta?

A partial answer to this question was presented earlier through the identification of four topics which are not currently part of the ICAA curriculum but are rated as highly important by chartered accountants who work in business organizations.

To obtain additional insight into this question, the Quadrant assessment model (Q.A.M.) was employed. As described earlier in the methodology section, the Q.A.M. requires participants to rate each knowledge/skill statement twice: once for "importance of the task" and a second time for "current ability to perform the task." These ratings were done on a 5 point Likert scale labeled from 1(low importance/low ability) to 5 (high importance/high ability). Sanders (1980) has proposed that these ratings provide a measure of importance as an ideal or desired outcome, and a measure of the real (ability) or actual ability to accomplish each task.

The data obtained from the questionnaires was classified into the four quadrants by use of the following procedure:

First, the mean score for each knowledge/skill statement was computed for both importance, and for ability. Then an overall mean

score was computed for the entire questionnaire for both importance and ability. The overall mean score is the mean of the seventeen knowledge/skill statement means calculated in the first step. The overall mean score for both importance and ability were used as a cutoff point to assign knowledge/skill statements to each of the four quadrants.

The use of a mean score to assign statements to quadrants is sensitive to distortion due to the possibility that extreme scores (outliers) could artificially elevate the mean (Msolla, 1993; Sisimayi, 1994) . The use of the mean to classify statements also ignores other moments of the statistical distribution such as the variance (standard deviation). Two skill statement mean scores, whose differences are not statistically significant, could be classified into different quadrants since the quadrant assessment model ignores the variances of the ratings made for each skill statement.

There are two alternative methods available for dealing with these potential statistical problems. One method (e.g., Msolla, 1993) is to use non-parametric tests which make very limited assumptions about the distribution of the data (and do not require an assumption of the normality of data). Non-parametric tests however, are not as powerful as parametric tests (which make assumptions about the distributions from which the data originate).

Non-parametric tests use less data since they usually convert the raw data into a ranked score, and then classify the ranked data into the four quadrants. The use of ranked data (as opposed to raw mean data) provides a less powerful test, thus Norusis (1990) advises that researchers should seek to use a parametric test, if the assumptions of a parametric procedure can be met.

The other method for dealing with these statistical problems is to examine the data and look for evidence of outliers, and the normality of the data (Norusis, 1990). The importance ratings and ability ratings were thus analyzed to look for extreme scores (outliers) that might bias the results, and standard deviations were also calculated to verify the reliability of the classifications made by the quadrant assessment model.

The overall mean rating for importance was 3.89 with a standard deviation of 0.45. The mean scores of the individual skill statements ranged from a high of 4.66 to a low of 3.14. Half of the individual skill means were above 3.89, and half were below 3.89. This range of scores indicate that there were no extreme scores in the importance ratings. Most of the mean scores for individual knowledge/skill statements are within two standard deviations of the overall mean score (normality).

The overall mean score for ability was 3.494 with a standard deviation of 0.56. The mean scores of individual task statements ranged from a high of 4.42 to a low of 2.45. Half of the individual

skill means were above 3.49, and half were below 3.49. This range of scores also indicates that there were no extreme scores in the ability ratings. Again, most of the mean scores for individual knowledge/skill statements are within two standard deviations of the overall mean score. This analysis of the data should give us comfort that the results are not being driven by extreme scores (outliers).

A sensitivity analysis was also conducted to assess the reliability of the classification procedure used to assign skill statements to the four quadrants. The quadrant assessment model uses the overall mean of 3.89 (standard deviation of 0.445) as the cut-off point for distinguishing between high importance and low importance knowledge/skill statements. The sensitivity analysis was conducted using the procedure described below.

First the skill statement closest to the (mean) cut-off point that would be classified as a high importance statement was identified. This marginal skill statement was skill 6: perform cash management duties. The mean importance rating of this skill statement was 4.04.

Next the skill statement closest to the (mean) cut-off point that would be classified as a low importance statement was identified. This marginal skill statement was skill 3: keep up-to-date on accounting standards. The mean importance rating of this skill statement was 3.87.

Finally, the difference between these means was computed (0.17) and compared to the standard deviation for the overall sample (0.45). The means of these two skill statements are less than one standard deviation apart, yet the quadrant assessment model classifies them differently on the dimension of importance. This suggests that there may be some classification errors in assigning skill statements to quadrants since the classification is done based on the mean only. A similar sensitivity analysis was conducted for the ability ratings, and again the marginal skill statements classified as high and low were not (statistically) significantly different.

This sensitivity analysis which incorporates the standard deviation as well as the mean, suggests that the marginal skill ranked "low" in importance (ability) may not be statistically significantly different from the marginal skills ranked "high" in importance (ability). This is not a significant problem, since no classification rule can attain a 100 % classification accuracy. In addition, the current study has an additional safeguard to prevent mis-classification: the comments written by participants (process analysis). A careful analysis of the participant comments is presented in the process analysis section to look for items that may be important to chartered accountants but have not been identified in this part of the data analysis.

The classification of task statements (based only on mean score) within the four quadrants of the quadrant assessment model is shown in Figure 3.

Quadrant 2 (High Ideal - Low Real)	Quadrant 1 (High Ideal - High Real)
	1) Prepare GAAP financial statements
	2) Analyze financial statements
	6) Perform cash management duties
	7) Develop internal controls
	8) Procedures to enhance efficiency
	9) Use budgets as operational tools
	16) Resolve conflicts
	17) Apply ethics in business decisions
Quadrant 3 (Low Ideal - Low Real)	**Quadrant 4 (Low Ideal - High Real)**
3) Keep up to date on acct standards	
4) Use derivatives to manage risk	
5) Perform treasury duties	
10) Capital budgeting	
11) Activity based costing	
12) Plan inventory levels	
13) Manage fixed assets	
14) Manage investments	
15) Make public presentations	

Figure 3

Quadrant Assessment Model

(Configuration Based on Mean Score Only)

Skill statements classified in Quadrant 1 are items which the chartered accountants rated as being high on importance (high ideal) and high on ability (high real). The eight skill statements that had a mean importance rating greater than the overall mean of 3.898 were all classified as being in Quadrant 1. This means that all participants assigned high ability ratings to the skill statements they regarded as important (see Table 8).

The correlation between participants' ratings on importance and ratings on ability was (r =) .94. The practical implication of assigning high ability scores to all high importance skill statements (correlation of .94 between importance ratings and ability ratings) is to leave Quadrant 2 (high importance, low ability) empty. If chartered accountants have high ability on all important skills then they do not need any further continuing education to improve their knowledge or skills.

There are two possible interpretations that could be used to understand this pattern of assigning high ability ratings to all high importance skill statements. One interpretation is that chartered accountants actually believe that they are experts and highly knowledgeable about all the relevant issues in their professional domain. This high confidence in their knowledge and expertise may explain why 39 percent of the participants had not attended even one continuing education course in the past year.

Table 8

Items with High Importance, High Ability Ratings

Item	Mean Importance Rating	Mean Ability Rating
1) Analyze Financial Statements	4.66	4.29
2) Apply Ethics and Values in Business Decisions	4.51	4.42
3) Use Budgets as Operational Tools	4.35	3.94
4) Develop Internal Controls	4.26	3.87
5) Prepare Basic GAAP Financial Statements	4.24	4.12
6) Develop Procedures to Enhance Efficiency	4. 12	3.70
7) Resolve Conflicts	4.08	3.75
8) Cash Management	4.04	3.63

This interpretation suggests that the ICAA may have difficulty in convincing a substantial number of chartered accountants to participate in continuing education activities on a voluntary basis. This interpretation would suggest that chartered accountants are not acting in accordance with Houle's (1980) model of professional education (figure 1) and need a mandatory continuing education requirement.

An alternative interpretation is that chartered accountants like to project an aura of being highly skilled experts. This means they don't like to publicly admit that their skills may be deficient or in need of upgrading in tasks that are within the professional domain of chartered accountants. This interpretation suggests that all empirical methodologies for identifying continuing education needs (including surveys and interviews) are going to be distorted when used on groups who have very high incentives to present themselves as highly competent and expert (high self-presentation bias).

In order to further explore the response patterns of these participants, the nine skill statements that had a mean importance rating less than the overall mean of 3.898 were analyzed. The data in figure 3 shows that all the items classified as having low importance were classified as being in Quadrant 3. This means that all participants assigned low ability ratings to the skills they regarded as being low in importance:

Table 9

Items with Low Importance, Low Ability Ratings

Item	Mean Importance Rating	Mean Ability Rating
9) Keep up to date on New Accounting Standards	3.87	3.11
10) Make Public Presentations	3.82	3.46
11) Perform Treasury Duties	3.76	3.22
12) Perform Capital Budgeting Studies	3.74	3.33
13) Manage Short and Long Term Investments	3.68	3.38
14) Manage Fixed Assets	3.35	2.76
15) Activity Based Costing	3.33	3.23
16) Use Derivatives to Manage Risk	3.29	2.45
17) Plan Inventory Levels	3.13	2.71

The practical implication of assigning low ability scores to all low importance skills is to leave Quadrant 4 (low importance, high ability) empty. A pattern of ascribing high ability on all important skills, and low ability on all unimportant skills (correlation of .94 between importance ratings and ability ratings), suggests chartered accountants are willing to indicate low ability levels, but only on skills they consider to be unimportant. Chartered accountants are either perfectly calibrated to the demands of tasks they face, or are responding strategically to the questionnaire.

A more detailed analysis of the data was done to identify any systematic differences in response patterns based on age (35 years and under, over 35 years) as suggested by Houle's (1980) model and sex (male, female).

The eight statements that had a high importance rating were classified by all participants as being in Quadrant 1 (high importance, high ability). There were no differences in classification of these statements by age or sex of participant.

The nine statements that had a low importance rating (and were classified in Quadrant 3 overall: low importance, low ability) showed some variation in classification by sub - groups of the participants as shown next.

Table 10

Variation in Classification by Sub-Groups of Participants

Item	Sub-Group Quadrant Ranking	Sub-Group Involved
9) Keep up to date on accounting standards	Q 2	< 35 Years
	Q 1	Females
10) Make Public Presentations	Q 2	Females
12) Perform Capital Budgeting Studies	Q 2	Males
13) Manage Short-Term and Long-Term Investments	Q 4	> 35 Years

These data indicate that chartered accountants who were 35 years or younger classified "keeping up to date with accounting standards" as a high importance activity, and rated themselves as having low ability on this task (Q 2). These younger members of the profession appear to be doing tasks similar to those they used to perform when they worked in CA firms, thus the current continuing education programs offered by ICAA are relevant to them. The reason this skill statement got classified into Q 3 overall is that older members (> 35 years) consider this skill to be of low importance.

There is also a male - female difference in response to this item. Overall, males classify this skill in Quadrant 3, whereas females classify this skill in Quadrant 1 (high importance, high ability). Overall, there is a strong statistical relationship between sex and age (the females are younger than males), $t = 3.43$, $p < .0001$. This suggests that younger participants (both male and female) rated this skill as being important whereas older participants did not.

Since the ICAA offers a variety of courses to keep up with accounting standards it is important to note that these courses are of interest to chartered accountants who work in CA firms as well as young chartered accountants who work in business organizations. Presumably, older chartered accountants are not involved directly in the preparation of financial statements and don't need to monitor changes in accounting standards very closely.

Female participants also classified "make public presentations" in Q 2 whereas (both young and older) males classified it in Q 3. Since three quarters of the participants were male, the overall classification of this item was Q 3. This suggests that there may be a demand for a presentation skills course targeted specifically for female members of the profession.

Male participants (both young and older) classified "performing capital budgeting studies" in Q2 suggesting that male participants may on the margin be more involved and hence interested in carrying out capital budgeting studies.

Older chartered accountants (> 35 years) classified themselves as having high ability on a low importance skill (Q 4) for managing short-term and long-term investments.

This sub-group analysis shows that on the high importance skills, all chartered accountants rated themselves as having high ability. Older chartered accountants rated themselves as having high ability on all skills. However, younger chartered accountants (both male and female) were willing to rate themselves as having low ability on some high importance skills. This analysis adds "making public presentations" and "capital budgeting studies" as potential items to consider when designing continuing education courses for chartered accountants who work in business organizations.

(3) To what extent do current continuing education programs reflect the needs of chartered accountants who work in business organizations?

The present study has two types of data that can be used to answer question 3: (1) responses by participants to questions about where they obtained their continuing education courses from, and whether they felt their needs were being met, and (2) written comments that can be analyzed qualitatively.

Twenty-eight (out of thirty-nine) female participants indicated that their needs were met by courses offered by the ICAA. However, these participants had access to a variety of courses offered by their employers, other institutions, and self study. Overall, only one female participant indicated that her continuing education needs were not being met.

Fifty-seven (out of one hundred and seventeen) male participants indicated that their needs were met by courses offered by the ICAA. Male participants also had access to a variety of courses offered by other institutions. Overall, nine male participants indicated that their continuing education needs were not being met. Overall there seems to be some dissatisfaction among male participants with the continuing education courses available to them.

Process Data

Participants were classified into two groups for the process analysis. The first group consists of ten participants who indicated

that their continuing education needs are not currently being met. The second group consists of fifty-six participants who indicated that their continuing education needs are being met but wrote comments in response to the open ended question:

"Please list any other continuing education needs that are important to you (in order of importance), as well as any other comments on continuing education"

The remaining 90 participants did not respond to the open-ended question in the questionnaire.

Overall, one hundred and seventeen males and thirty-nine females participated in the study. Fifty-eight male participants were under the age of 35, and fifty-nine male participants were over the age of 35. Thirty-two female participants were under the age of 35, and seven female participants were over the age of 35. The age and sex of each group of participants is shown in Table 11.

The first group (shown in Table 11) consisted of ten participants who indicated their continuing education needs were not being met. Eight of these participants were young males (<35 years of age), one participant was an older male (>35 years of age), and one participant was an older female (>35 years of age). Four of these participants (out of ten) wrote comments in response to the open- ended question. The comments were as follows:

Table 11

Description of Participants

	Males		Females		Total
	<35 yrs	>35 yrs	<35 yrs	>35 yrs	
CE needs not being met	8	1	0	1	10
Participants who wrote comments	19	19	14	4	56
Participants who did not write comments	31	39	18	2	90
Total	58	59	32	7	156

(1) Female >35: Works in a specific industry, hence feels topics for continuing education would appeal to a limited audience.

She compensates for her own needs by reading all available information provided by the industry association to which she belongs. However she feels the ability to speak in public and make effective presentations is an area in the education system often overlooked as being important.

The female participant felt that presentation skills need more emphasis in continuing education courses. This comment is consistent with the sub-group analysis done earlier which indicated that female participants classified presentation skills as an important topic on which they would like to take a course. This comment further reinforces the finding that the ICAA should consider setting up a presentation skills course targeted specifically at female members.

(2) Male <35:
Claims procrastination on his part, and his employer discourages taking time off from work.

(3) Male <35:
Claims knowledge is not the problem, it is the time required to keep up.

The comments by these two participants, both of whom are young males, gives further credence to the need to monitor attendance of chartered accountants in continuing education activities. Overall, thirty- nine percent of participants reported that they had not attended a single continuing education course in the last year. The ICAA needs to monitor their members behavior and consider setting up a mandatory continuing education program.

(4) Male <35:

Feels the following topics should be included in continuing education courses:

(a) Due diligence procedures when acquiring a business.

(b) Effective negotiation skills.

(c) Creative compensation arrangements for all types of staff.

(d) Traps, pitfalls etc. associated with leasing office space.

(e) Basic legal concepts etc. relative to a chartered accountant in industry (i.e. purchase and sale of business).

(f) Insurance issues.

The second group consists of fifty-six participants who wrote comments in response to the open ended question. Nineteen of these participants were young males (<35 years of age), nineteen participants were older males (>35 years of age), fourteen participants were young females (<35 years of age), and four participants were older females (>35 years of age).

These participants made seventy-four suggestions for continuing education courses. Participants also commented on factors such as

the time, cost, location and quality of courses offered by the ICAA. A summary of the comments is presented in Table 12.

The topic mentioned most frequently (16 requests) was for courses on risk management. As indicated earlier, the Faculty of Business at the University of Alberta, is currently in the process of developing a masters degree program in financial management. One of the key topic being considered for this new masters program is the use of derivatives to manage risk.

It is interesting to note that although this skill got classified in quadrant 3 (low importance and low ability) in the overall sample, there seem to be a significant number of chartered accountants who would like more courses on this topic. The large number of comments on this topic (especially by young chartered accountants) suggests that the use of derivatives to manage risk is a new and emerging issue.

The next three most frequently mentioned topics were computer systems (14 requests), taxation (13 requests), and soft management skills such as negotiation skills, working in teams, and managing multi-discipline teams (11 requests). None of these items had been included in the questionnaire so these are new topics that have been identified by the process analysis.

Eleven participants made comments that they dislike the courses offered by the Institute of Chartered Accountants of Alberta. Most

of these comments indicate that there is a general (negative) perception that the ICAA courses are geared to chartered accountants in public practice.

One participant indicated that the courses offered were too elementary, and even courses advertised as being "advanced courses" were geared towards beginners. The large number of negative comments (eleven out of fifty-six participants who wrote comments) suggest that the ICAA may need to take very public and concrete steps to develop courses geared to the needs of chartered accountants who work in business organizations.

Eight participants (out of eleven) who made negative comments about ICAA continuing education courses were young chartered accountants. This may indicate that there is a need for the proposed masters degree program being planned by the Faculty of Business, and that it is aimed at the right target market (young chartered accountants making the transition from CA firms to business organizations).

A high number of participants (8) outlined problems they face in attending continuing education courses. These problems consist of availability of courses, timing of courses, and the location where courses are offered. Most comments on location were made by chartered accountants who live in smaller cities (outside Calgary

Table 12

Summary of comments made by participants

Courses recommended by participants	Males <35 yrs	Males >35 yrs	Females <35 yrs	Females >35 yrs	Total
Risk management(Derivatives, insurance, cash management)	7	3	4	2	16
Computers & large scale accounting systems	6	6	2	-	14
Tax (corporate, income, general)	6	-	6	1	13
Management (Professional & soft management skills)	4	2	5	-	11
Dislike ICAA courses	4	1	4	2	11
Time/cost/location	1	6	-	1	8
Operating a business (legal concepts, operations, business strategies)	2	2	3	-	7
Impact of new GAAP and Foreign GAAP on Internal reporting	2	1	2	1	6
Environmental reporting	2	-	-	-	2
Ethics	-	1	1	-	2
Budgets	-	2	-	-	2
Presentation skills	1	-	-	-	1

and Edmonton). Suggestions were made that courses be offered more evenly throughout the year (avoiding the busy season), and that courses be made available on videotape so they can be accessed more conveniently. All comments on cost indicated that participants felt the cost of attending continuing education courses was reasonable.

Seven requests were made for courses on procedures in operating a business. These include legal concepts, operations and business strategies. Six chartered accountants who work in the oil and gas industry suggested a need for courses on the impact of new GAAP and foreign GAAP on internal reporting. Other topics mentioned included environmental reporting, ethics, budgets and presentation skills.

Overall the process analysis reinforced concerns about the voluntary nature of the continuing education program for chartered accountants, provided additional support to the insight that female members would like courses on presentation skills, and indicated a strong demand for courses on risk management. The process analysis also identified three new areas of potential interest to chartered accountants who work in business organizations:

1) Computer Systems, especially large scale systems that process accounting data. There was also a general interest in computer technology issues including computer security.

2) Taxation, especially corporate tax and excise tax (GST), and

3) Soft management skills, especially negotiation skills, teamwork, team management, and operating a business.

Summary

The data presented in this chapter indicates that the ratings made by (especially older) chartered accountants for importance and ability are highly correlated thus classifying all items into quadrant 1 (high importance, high ability) or quadrant 3 (low importance, low ability). There appears to be a high self presentation bias that leads chartered accountants to make ratings which indicate that their knowledge is highly calibrated to the tasks they perform.

The demographic data indicated that thirty nine percent of the participants had not attended even a single continuing education course in the last twelve months. In addition, many participants made negative comments about continuing education courses offered by the ICAA and felt these courses were not relevant for chartered accountants working in business organizations. There is clearly a problem with both attendance and the perception of the adequacy of continuing education courses, that need to be addressed by the ICAA.

The analysis of rating data identified the following skills as being important to chartered accountants who work in business organizations:

1) Financial Statement Analysis,

2) Business Ethics,

3) Use of Budgets as Operational Tools,

4) Development of Internal Control,

5) How to make Public Presentations (target to females),

6) Capital Budgeting (target to young males),

The analysis of process data identified the following additional topics:

7) Risk Management (particularly derivatives),

8) Use of large computer systems and computer security,

9) Corporate Taxation,

10) Soft Management Skills (negotiation, managing teams), and

11) Acquisition of a Business.

Chapter 5

Summary, Conclusions and Implications

This chapter provides an overview of the study. The overview consists of three parts: a summary of the research questions and the methodology used, the major findings, and finally the implications of this study for further research.

Summary of Study

The Problem

The purpose of the current study was to determine the continuing education needs of chartered accountants who work in business organizations. To guide the research and data analysis, the following specific questions were addressed:

(1) What knowledge/skills are considered to be important by chartered accountants who work in business organizations ?

(2) What continuing education needs are perceived by chartered accountants that can be addressed by extending continuing education programs offered by the Institute of Chartered Accountants of Alberta ?

(3) To what extent do current continuing education programs reflect the needs of chartered accountants who work in business organizations?

Significance of the Study

We are living in an era characterized by rapid technological and social change (Davis and Botkin, 1994). A driving force behind these changes is an explosion in the growth of knowledge, and an increasingly educated and sophisticated population that demands progress and convenience (Schon, 1983). Our society is becoming a knowledge based society

One of the key functions of a professional organization in a knowledge based society is to deliver a continuing education program to maintain and promote competency of its members. This competency has to be maintained for both the technical needs, as well as the social and ethical dimensions of the profession (Schon, 1983).

Professional organizations face the task of providing education to some of the most highly specialized and educated members of society. Professional organizations, such as the Institute of Chartered Accountants of Alberta (ICAA) are on the front line of delivering advanced education to a mature and sophisticated public.

In the past, the majority of chartered accountants worked in professional accounting firms who conduct independent audits and

provide tax and consulting services to private and publicly traded companies (public practice). In recent years, there has been an increasing trend for chartered accountants to work for large business firms or for the government and service organizations such as schools, universities and hospitals (as financial administrators). A majority of chartered accountants in Alberta now work in business and government organizations.

A major challenge facing the Institute of Chartered Accountants of Alberta is to assess the continuing education needs of its members who work in business organizations, and to develop continuing education programs to fulfill their needs (Houle, 1980). The Faculty of Business, at the University of Alberta, is also presently proposing to create a new masters program (masters of financial management) to assist chartered accountants in making the transition from public practice to working in business organizations.

Research Design and Methodology

The purpose of this study was to determine what needs to be done to improve the continuing education programs for chartered accountants who work in business organizations. This is an exploratory study, based on the assumption that chartered accountants are competent adults who can articulate their education needs. A survey research methodology was used to sample the opinions of a large group of chartered accountants who work in business organizations in Alberta.

The questionnaire developed consisted of three parts. In the first part, participants were asked to provide a variety of demographic data such as their age, sex and number of continuing education courses attended in the past year.

In the second part, participants ranked seventeen skill statements for the importance of the skill, and their current ability in that skill. A five - point likert scale from 1 (low) to 5 (high) was provided under each heading to facilitate the rating judgments. Discrepancies between importance (ideal) outcomes and current ability (real) were analyzed using the Quadrant Assessment Model (Sanders, 1980) to identify continuing education needs of chartered accountants.

Finally, participants were provided with an open ended question and asked to write comments on their continuing education needs.

Summary of findings

The demographic data indicate that the participants were mostly male, with a median age of 35 years, and a median of 4 years experience in business organizations. A surprising finding was that 39 % of respondents self reported that they had not participated in even a single continuing education course in the past year. This behavior is contrary to Houle's (1980) model of professional education which requires professionals' to maintain and enhance their competence throughout their career (figure 1).

The purpose of the current study did not encompass a study of voluntary versus mandatory continuing education requirements for chartered accountants. However, the finding that a large number of participants indicated no participation in formal continuing education courses in the past year cannot be ignored. In addition, chartered accountants who are over 35 years old, had a tendency to rate themselves as having high ability on all important tasks.

These results suggest that the ICAA needs to monitor its members continuing education activities. If a significant number of chartered accountants (especially older chartered accountants) do not participate in continuing education courses over an extended period of time, the ICAA should formally reconsider the need for a mandatory continuing education requirement (Rockhill, 1983; Norcinin and Shea, 1993; Lowenthal, 1981).

Knowledge/Skills that are important to Chartered Accountants

The ratings of importance identified five knowledge/skills that are considered important by chartered accountants but are not part of the current continuing education program of the ICAA:

1) Analyze Financial Statements,

2) Apply Ethics and Values in Business Decisions,

3) Use Budgets as Operational Tools,

4) Develop Internal Controls, and

5) Develop Procedures to Enhance Efficiency,

It is interesting to note that none of these topics are included in the new masters degree in financial management being proposed by the Faculty of Business. Several of the key topics being proposed in the new masters program (e.g., use derivatives to manage risk, perform treasury duties) were rated as being less important with mean ratings from 3.29 to 3.76 on a 5 point scale. Overall, all the knowledge /skill statements used in the study got a mean importance rating greater than 3.0.

An analysis of the comments written by participants, however, indicated a substantial interest in courses on risk management (16 requests), and particularly on the use of derivatives to manage risk. Many young (Age 35 or less) chartered accountants indicated strong interest in this topic. This suggests that more finance oriented topics (like derivatives) are likely to be of interest to chartered accountants in industry, but the current focus on mostly finance oriented topics in the proposed masters program is unlikely to be sufficient.

The comments written by participants indicated that the next three most frequently mentioned topics were computer systems (14 requests), taxation (13 requests), and soft management skills such

as negotiation skills, working in teams, and managing multi - discipline teams (11 requests). None of these items had been included in the questionnaire so these are new topics that have been identified by the process analysis.

Implications

The data from this study should be useful to the Institute of Chartered Accountants of Alberta in designing future programs of continuing education for its members working in business organizations. Eleven participants (out of fifty six who wrote comments) indicated that they dislike the courses offered by ICAA.

There is a general (negative) perception that the ICAA courses are geared to chartered accountants in public practice. This is not just a perception problem. There seems to be a realization that there is no organized curriculum of introductory, intermediate and advanced courses designed for chartered accountants who work in business organizations. This suggests that the ICAA needs a formal curriculum (and not just some unconnected additional courses) to not only create the perception, but also deliver content relevant to chartered accountants who work in business organizations.

The study suggests that the ICAA needs a more formal curriculum to meet the continuing education needs of chartered accountants working in business organizations. One approach for developing this curriculum would be through the proposed masters degree in financial management, at the University of Alberta.

The results of the current study indicate that there is a substantial group of young chartered accountants who are interested in the finance oriented topics being considered for the new masters program. The results also suggest that the new masters program could become more effective (and more attractive to chartered accountants) if it addressed issues such as business ethics, financial statement analysis, budgeting, information systems, taxation and soft management skills.

The finding of different education needs between young and older chartered accountants is consistent with Houle's (1980) model of professional education which suggests that younger professionals have more diverse education needs.

An alternative approach to developing a formal curriculum would require the ICAA to design a curriculum for chartered accountants who work in business organizations. In the United States, the American Institute of Certified Public Accountants (AICPA) has developed a professional education curriculum.

The AICPA's national CPE curriculum (Ciesic, Monk and Pavlock, 1985) incorporates topics such as taxation, advisory services, information systems, buying and selling a business, budgeting, and personal development (which includes communication skills, managing groups, counseling and career planning). Most of these

issues were mentioned by Alberta Chartered Accountants as being important to them.

The results suggest that the ICAA should consult with their American counterparts (AICPA) as well as the Faculty of Business at the University of Alberta, to design a formal curriculum. It may not be feasible to incorporate all the topics identified in the study in the proposed masters program. A partnership between the University of Alberta and ICAA is likely to be the best solution.

The University could deliver training on finance issues (such as derivatives), business ethics, budgeting and financial statement analysis. The ICAA could deliver courses on more specialized topics that require more practical skills like taxation, information systems, and soft management skills.

Suggestions for Future Research

The results of this study are based on ratings and self reports of educational needs by chartered accountants working in business organizations in Alberta. The use of a survey is efficient in sampling a large number of people and in identifying topics that are of interest to chartered accountants. However, a survey cannot be used to develop a curriculum to formally address the continuing education needs of chartered accountants who work in business organizations.

The ICAA needs to take the initiative and consult with the AICPA and University of Alberta to begin the process of developing a formal continuing education curriculum for their members who work in business organizations.

The sub-group analysis done in the previous chapter suggests that chartered accountants have different needs depending on their sex (male, female) and particularly their age. This suggests a need for a curriculum that advances from introductory, through intermediate, and then advanced courses.

The design of such a curriculum requires a considerable amount of expertise and consultation (Stufflebeam, et al, 1985-call this an analytical approach). A more intense series of discussions among key participants are needed to develop a formal curriculum. If additional data is required, more in depth focused interviews should be conducted with groups of chartered accountants. The interviewer can then probe issues in more depth with a group of participants.

There is also a need for a formal assessment of the need to have a mandatory continuing education program as opposed to a voluntary program. A longitudinal study is required to assess the participation of chartered accountants in continuing education courses over a five year period of time. If there are a large number of chartered accountants who do not participate in continuing education courses (as suggested in this study), then the ICAA should

re-consider its position on requiring a mandatory continuing education program

Conclusions

Chartered accountants and other professionals in society are at the forefront of a knowledge revolution that makes tremendous demands for effective continuing education. Most of the chartered accountants who participated in the study indicated that they sought to improve their knowledge/skills by reading material on their own, attending continuing education courses presented by ICAA, their employers and other industry and educational organizations.

However, participants expressed a considerable amount of concern about the ICAA's role in delivering continuing education programs for them. In particular, young male participants expressed some dissatisfaction with the overall continuing education courses available to them.

The present study has identified several topics that are of interest to chartered accountants that are not currently being addressed in the ICAA's continuing education program. More importantly, however, the study identified a need for a formal curriculum that would address the needs of chartered accountants in a more systematic manner as their career progresses from the public accounting firms to financial management positions in business organizations.

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Appendix A

Letter of Introduction from the Institute of Chartered Accountants of Alberta (ICAA)

Chartered
Accountants
of Alberta

Institute of Chartered
Accountants of Alberta

580 Manulife Place
10180 - 101 Street
Edmonton, Alberta T5J 4R2
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(403) 264-3420 (Calgary)
1-800-232-9406 (other Alberta)
Fax: (403) 425-4766

Office of the Executive Director

Dear Colleague:

Enclosed is a survey questionnaire from a graduate student in education studies at the University of Alberta. The summary results of this survey will be shared with the Institute and will be very useful in planning future Professional Development offerings.

Your cooperation in completing the survey would be most appreciated (about 10 minutes).

Yours truly,

Steven J. Glover, FCA
Executive Director

Appendix B

Consent Form

Number ----------

Consent Form

You are invited to participate in a study of continuing education needs of Chartered Accountants who work in business organizations. In this study, you are requested to first provide some background data on your work experience and participation in continuing education activities. Then you will be provided with a sample of knowledge / skills statements that may be relevant to a CA working in a business organization. Your task is to rate each statement twice, once indicating by circling, under the heading importance of the ability of CA to, how important you think the knowledge / skill is for a CA working in a business, and under the heading Your present ability, your current level of knowledge / skill.

If you choose to participate, approximately fifteen minutes of your time will be required to complete the questions. The questions should cause you no discomfort. Your responses will be confidential and there will be no risks to you associated with your participation. If you decide to participate, you will be assigned a number. All data reported will contain only your subject number and not your name. Hence no one will be able to associate your name with your responses in this study.

If you decide to participate, you are free to discontinue participation at any time without any obligation. If you have any questions, please contact me. I will be happy to answer them and can be contacted at : Naheed Jamal (403- 430 - 9823). Your signature below indicates that you have read the information provided above and decided to participate. Thank you for your assistance on this project.

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Signature of participant Date

Appendix C

Questionnaire

Background Information

1 Number of years of experience as an accountant in Industry :

2 Age :

3 Sex :

4 How many continuing education courses did you attend this year :

5 <u>Availability and accessibility of continuing education activities</u>
Your present needs for continuing education are being met by :
(Please check all items that are applicable)

____ The Institute of Chartered Accountants of Alberta
____ On the Job training
____ Self directed (Video tapes, journals, books)
____ Others
____ Not being met

Are continuing education programs available on topics of particular interest to you.
____ 1. Yes
____ 2. No

Needs Assessment

		Importance of ability of CA in industry to					Your present ability to				
		Low				High	Low				High
1	Prepare basic GAAP financial statements	1	2	3	4	5	1	2	3	4	5
2	Analyze financial statements	1	2	3	4	5	1	2	3	4	5
3	Keep up to date on new accounting standards	1	2	3	4	5	1	2	3	4	5
4	Use derivatives or other financial instruments to manage risk	1	2	3	4	5	1	2	3	4	5
5	Perform treasury duties	1	2	3	4	5	1	2	3	4	5
6	Perform cash management duties	1	2	3	4	5	1	2	3	4	5
7	Develop internal controls to safeguard assets and records	1	2	3	4	5	1	2	3	4	5
8	Develop procedures to enhance operating efficiency	1	2	3	4	5	1	2	3	4	5
9	Use budgets as operational tools	1	2	3	4	5	1	2	3	4	5
10	Perform capital budgeting studies	1	2	3	4	5	1	2	3	4	5

Needs Assessment

		Importance of ability of CA in industry to					Your present ability to				
		Low				High	Low				High
11	Perform activity based costing studies	1	2	3	4	5	1	2	3	4	5
12	Plan inventory levels	1	2	3	4	5	1	2	3	4	5
1 3	Manage fixed - assets	1	2	3	4	5	1	2	3	4	5
1 4	Manage short - term and long - term Investments	1	2	3	4	5	1	2	3	4	5
1 5	Make public presentations	1	2	3	4	5	1	2	3	4	5
1 6	Resolve conflicts	1	2	3	4	5	1	2	3	4	5
1 7	Apply ethics and values in business decisions	1	2	3	4	5	1	2	3	4	5

Please list any other continuing education needs that are important to you (in order of importance), as well as any other comments on continuing education.